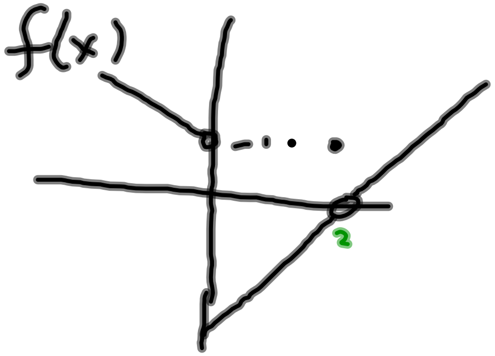
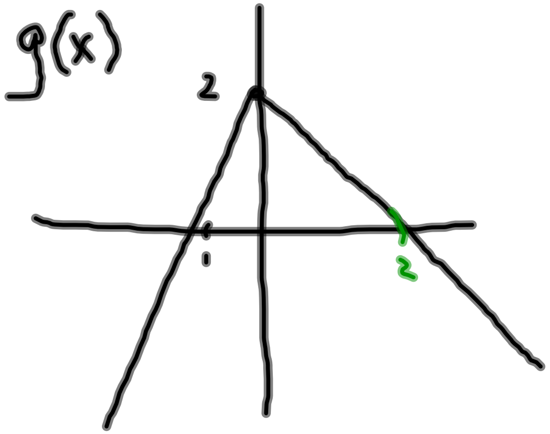




2.2/1–10

4

5 6

8 9

10

4a $\lim_{x\to2}[f(x)+g(x)] = \overset{0}{\lim_{x\to2} f(x)} + \overset{0}{\lim_{x\to2} g(x)}$

$= 0$

4b $\lim_{x\to0}[f(x)+g(x)] = \overset{dne}{\lim_{x\to0} f(x)} + \overset{2}{\lim_{x\to0} g(x)}$

dne

* 4c $\lim_{x\to0^+}[f(x)+g(x)] = -2+2=0$

* 4d $\lim_{x\to0^-}[f(x)+g(x)] = 1+2=3$

4e $\lim_{x\to 2} \dfrac{f(x)}{1+g(x)} = \dfrac{\lim_{x\to 2} f(x)}{1+\lim_{x\to 2} g(x)} = \dfrac{0}{1+0} = \dfrac{0}{1} = 0$

4f $\lim_{x\to 2} \dfrac{1+g(x)}{f(x)} = \dfrac{1+0}{0} = \dfrac{1}{0}$ DNE

4g $\lim_{x\to 0^+} \sqrt{f(x)} = \sqrt{\lim_{x\to 0^+} f(x)} = \sqrt{-2}$ DNE

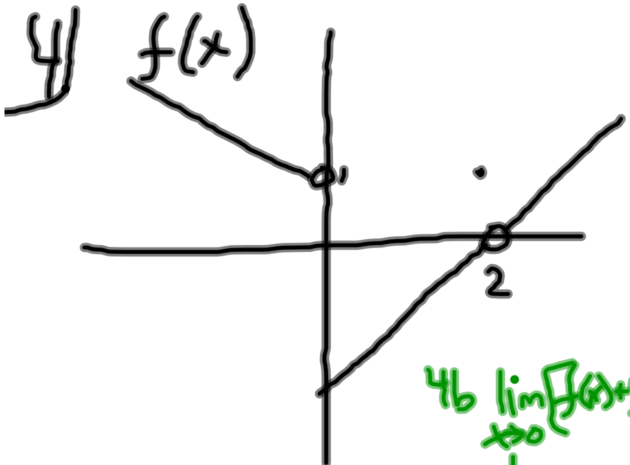
4h $\lim_{x\to 0^-} \sqrt{f(x)} = \sqrt{1} = 1$

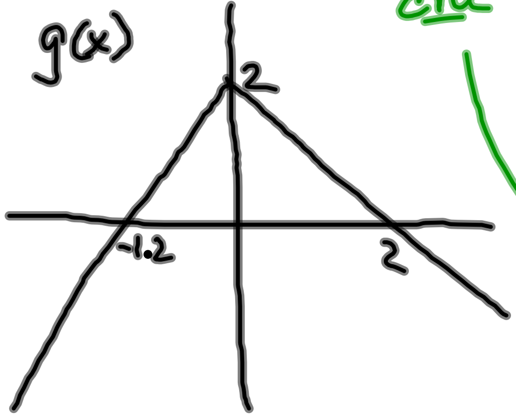
5) $\lim_{y\to 2^-} \frac{(y-1)(y-2)}{y+1} = \frac{(2-1)(2-2)}{(2+1)} = \frac{(1)(0)}{3} = 0$

6) $\lim_{x\to 3} \frac{x^2-2x}{x+1} = \frac{3^2-2(3)}{3+1} = \frac{9-6}{4} = \frac{3}{4}$

7) $\lim_{x\to 4} \frac{x^2-16}{x-4} = \frac{4^2-16}{4-4} = \frac{0}{0}$ uh. oh. IDK

$\lim_{x\to 4} \frac{(x-4)(x+4)}{(x-4)} = \lim_{x\to 4} x+4 = 8$





22/1-10

4a $\lim_{x\to 2}[f(x)+g(x)] = \overset{0}{\lim_{x\to 2} f(x)} \overset{+}{+} \overset{0}{\lim_{x\to 2} g(x)} = 0$

4c $\lim_{x\to 0^+}[f(x)+g(x)] = (-2)+(2)=0$?

4d $\lim_{x\to 0^-}[f(x)+g(x)] = (1)+(2)=3$ 4

4b $\lim_{x\to 0}[f(x)+g(x)]$ dne

dne "+" 2

$\lim_{x\to 0} f(x) + \lim_{x\to 0} g(x)$

4e $\lim_{x\to 2} \frac{f(x)}{1+g(x)} = \frac{\lim_{x\to 2} f(x)}{1+\lim_{x\to 2} g(x)} = \frac{0}{1+0}$ 9 10

4f $\lim_{x\to 2} \frac{1+g(x)}{f(x)} = \frac{1+0}{0} = \frac{1}{0}$ dne $= \frac{0}{1} = 0$

$\lim_{x\to 2^+} \frac{1+g(x)}{f(x)} = \frac{1+0^-}{0^+} = +\infty$

$\lim_{x\to 2^-} \frac{1+g(x)}{f(x)} = \frac{1+0^-}{0^-} = -\infty$

9) $\lim_{x\to 1^+} \dfrac{x^4-1}{x-1} = \dfrac{1-1}{1-1} = \dfrac{0}{0}$ uh oh idk

$(x-1)\,[(x^2)^2-(1)^2]$

$(x+1)(x^2-1)(x^2+1)$

$\dfrac{(1.001)^4-1}{(1.001)-1} = 4.006004\ldots$

$\lim_{x\to 1^+} \dfrac{x^4-1}{x-1} = \lim_{x\to 1^+} (x+1)(x^2+1)$ ✓

$= (2)(2) = 4$

10) $\lim_{x\to -2} \dfrac{t^3+8}{t+2} = \dfrac{(t+2)(t^2-2t+1)}{t+2}$

$= \lim_{x\to -2} t^2-2t+4$

$= (-2)^2-2(-2)+4$

$= 4+4+4 = 12$

28)

$$\lim_{x \to 3^-} \frac{1}{|x-3|}$$

DNE

$+\infty$

$-\infty$

x	
2	$\frac{1}{\lvert 2-3 \rvert} = \frac{1}{1} = 1$
2.9	$\frac{1}{\lvert 2.9-3 \rvert} = \frac{1}{\lvert -.1 \rvert} = \frac{1}{.1} = 10$

27) $\lim_{x \to 2^+} \dfrac{1}{|2-x|}$

DNE

$+\infty$

$-\infty$